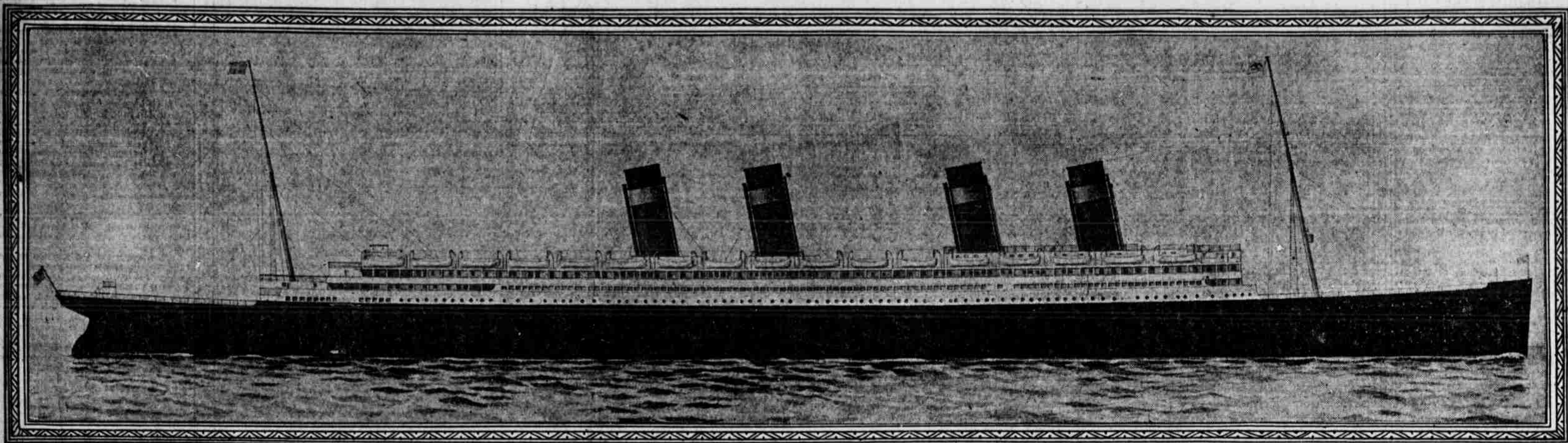


# What the 1,000 Foot Liner Means to American Shipping



THE NEW 1000 FOOT LINERS. THE BIGGEST DEVELOPMENT of the TRANS-ATLANTIC GREYHOUND.

## Proposed Ships Excelling Anything Afloat in Size, Speed and Safety Represent Our Bid for Supremacy in Passenger Service

By ROBERT G. SKERRETT.

AMERICA is to make a brave effort to capture the "blue ribbon" of transatlantic passenger service. We are to build two great liners a thousand feet in length, and that they may be formidable competitors, yes the superiority of existing ocean greyhounds the intention is to give them motive power of such energy that they can be driven along, day in and day out, at a speed of thirty knots an hour.

It has been a long time since we made any pretence of excellence in the ocean service between the United States and Europe, and for decades we have been quite content to let foreign shipping interests win not only the honors of this lucrative business but to fill their coffers in the main at our expense. The war will have done us a good turn if it has been instrumental in awakening us to a full realization of the part that a native owned merchant marine can and should play in our national life; and a fleet of this sort would be lacking in balance if it could not boast a thoroughly first class array of up-to-date passenger craft of the best and biggest sort.

It was with this thought in view that the United States Shipping Board took under advisement months back the planning of two giant liners capable of spanning the Atlantic in an interval of four days' steaming. And now the authorities are so far along in this heartening project that finished drawings can be made available to prospective builders in the course of a very few weeks. No wonder ex-Chairman Edward N. Hurley is enthusiastic over the prospect and especially pleased that these splendid ships can be started shortly.

According to the programme as out-

lined, it is the intention of the United States Shipping Board to construct the craft out of national funds and, later on, perhaps, to turn them over to competent American interests for commercial operation. While the International Mercantile Marine Company, as such, has not taken an active part in formulating this inspiring scheme, still it has indirectly lent of its experience and of its technical skill in planning these immense vessels. That is to say, the designs have been generally prepared by W. F. Gibbs, a New York naval architect, who is in charge of the construction department of the American Line. This expert is thoroughly familiar with the tastes and demands of our ocean travelling public, and the primary desire, of course, is to please our own people and to lure their patronage to our own liners as far as the capacity of the two proposed craft will permit.

### To Develop Great Power.

The new ships are to be of 55,000 gross tons each. They will be 1,000 feet long, have a maximum beam of 102 feet, and draw, when full laden, 35 feet of water. As would logically be expected, they will be equipped with oil burning boilers, and the idea is to store enough liquid fuel in their tanks to carry them from here to Europe and back without replenishment. That is to say, they will be able to steam a total distance of 7,000 miles and, by being independent of a European market for oil, they will be able to get their petroleum where it can be bought cheapest.

Each ocean titan will have turbine installations capable of developing 110,000 horse-power, and this energy is to be distributed among four propeller shafts. There is not the slightest doubt about this propulsive effort being sufficient to drive the vessels

through any ordinary seaway at a rate of thirty nautical miles an hour. This point has been definitely settled by tests in the naval Model Experimental Basin at Washington, D. C. There, three or four different models have been thoroughly tried out, and in this way a form of hull has been discovered that will meet all of the requirements for the desired service. The aim has been to secure a body that would make the most economical use of the maximum horse-power and, at the same time, meet every requirement as to seaworthiness and comfort in all kinds of weather.

### Capable of Spanning Gap.

The experts of the Experimental Basin have been so long engaged in this sort of research work that they are quite capable of spanning the enormous gap between a comparatively miniature model of probably less than twenty feet in length and a full-sized liner measuring, from bow to stern, nearly a fifth of a mile. Such are the practical fruits of that scientific aid to ship designing which was called into being years ago by Rear Admiral D. W. Taylor, the present chief constructor of our fighting fleet. This is not the first time that the basin has dealt with some of the problems connected with 1,000-foot steamships, and New Yorkers, then, as now, had especial interest in the work conducted there.

About seven years ago the authorities of the Dock Department and the army engineers could not agree upon the wisdom of extending permanently one of the Chelsea piers for the accommodation of the Olympic. The military officials argued that the narrowing of the waterway would induce serious disturbances in the flow of the river. Finally, to settle that moot question once and for all, towing tests

were made in the Model Experimental Basin where certain conditions along the Chelsea region of the North River were reproduced upon a small scale. A model fifteen feet long was towed at speeds representing varying velocities from six to twenty knots an hour.

This miniature representation of a 1,000-foot liner settled the matter conclusively, and as a result the city built the first of its group of 1,000-foot piers at Forty-fourth street, where the river is wide enough to stand the encroachment without any serious derangement of the tidal movement. Because of that research work and the city's anticipation of the building of 1,000-foot steamships we are to-day in a position to handle vessels of that size.

It is a coincidence, of course, but it is nevertheless an interesting fact that we have recently been celebrating the centennial of the first crossing of the Atlantic Ocean by a steam propelled vessel—i. e., the memorable voyage of the steamship Savannah, which covered that long stretch, intermittently helped by her engine, in twenty-four days from land to land. The first runs entirely under steam from one side of the Atlantic to the other were made in 1838 by two British side wheelers, the Sirius and the Great Western, which reached New York within a day of one another—the Sirius doing the voyage in seventeen days and the Great Western in fifteen days. The Savannah, of 280 tons, was 120 feet long over all, and had a beam of twenty-nine feet; thus in 100 years we have magnified the length of our liners almost ninefold, and in the matter of speed they have gained six times that possible with the engine and boiler power provided for our transatlantic experiment of 1839.

### The Savannah Compared.

In the New York Mercantile Advertiser of March 27, 1819, was printed the following enthusiastic description of the steamship Savannah's accommodations for ocean voyagers: "Her cabin is finished in an elegant style, and is fitted up in the most tasteful manner. There are thirty-two berths, all of which are staterooms. The cabin for ladies is entirely distinct from that intended for gentlemen, and is admirably calculated to afford that perfect retirement which is so rarely found on board of passenger ships." In contrast the huge new liners, apart from an operating personnel of 1,000—officers and crew—are each to take care of 3,000 passengers. These will be divided as follows: First class, 1,000; second class, 800, and steerage, 1,200. Further, in order that the travellers shall have enough to keep them still linked with their accustomed pleasures ashore, these great navigable towns are to have ballrooms, moving picture theatres, grill rooms, sun parlors, winter gardens, swimming pools, Turkish baths, gymnasiums and small shops that will supply them with every reasonable want or luxury. Just see how much intensive enjoyment and how many conveniences are crowded into a trip that is designedly not to take more than four days from port to port! Compared with the supposedly superior comforts of the steamship Savannah we see reflected in the 1,000 foot steamships the changed standards of life which a century of national progress has brought about in America.

And that these vessels shall be safeguarded as far as possible against collision either with other craft, unheeded derelicts or a fog hidden iceberg, they are to be extensively provided with an inner skin, and the intervening double bottom space, so called, is to be formed into a great honeycomb metal by numerous subdivisions so that any water pouring in through the damaged outer plating will be confined within narrow limits. Further, the inner body of each of these ships will be subdivided into many compartments of moderate size by water tight bulkheads, and because of these safety provisions the ships

will be in large measure unsinkable. That is to say, it would take a series of injuries to so destroy their buoyancy as to make it impossible for them to remain afloat.

According to the estimates, each of these monster vessels will cost complete a matter of quite \$20,000,000, and it will require from two and a half to three years to have them ready for service after their keels are laid. Big as the ships will be and unusual as they appear contrasted with other American liners now running, still we have at least two shipyards that today can be counted upon to undertake their construction. The New York Shipbuilding Company's plant at Camden, N. J., has two slips available of ample length, and the Newport News Shipbuilding Company is engaged in hastening the completion of two ways capable of taking care of steamers of the size planned. There is no question about our having plenty of men of the various sorts that would be required to turn out magnificent products of the shipbuilder's art.

### The Transatlantic Race.

The man in the street, the average citizen, will want to know why we should wish to jump so far ahead of our previous largest transatlantic liners. To him increased size represents added outlays in every direction, and being untechnical, he concludes that we are inviting financial disaster in making this amazingly long stride forward. Startling as it may seem, on the contrary we are actually moving in the direction of economy—doing the very thing that will bring us the greatest returns upon our venture. To begin with, ocean waves have remained more or less of the same average size for thousands of years, and every growth of the steamship has reduced the menace of these billows or their capacity to halt or hamper the ship.

Therefore a thousand-foot liner will be able to hold her own under weather conditions that might seriously impede a ship 600, 700 or 800 feet from bow to stern. It is not merely a matter of length, however, but there is magnified bulk and added mass or dead weight—displacement, the naval architect calls it. This factor makes for sustained motion despite boisterous waves and the blast of opposing winds. In short, this inertia less utilizes the propulsive effort transmitted by the screws.

But this is not the only advantage inherent to mere size. A big craft, within some limits, is relatively cheaper to build, ton for ton, than a smaller one when all the gains are balanced. For instance, there are certain fundamental benefits quite apart from economy of sea transport or increased speed. To be specific, the latest craft can run at an average high speed in rough weather, and by this she is able to maintain not only a fast service but a regular one between her terminal ports. As a consequence of this she can make more voyages in the same year and, accordingly, net her owners a correspondingly increased revenue. Next, because of her steadiness in tempestuous seas, she affords that much more comfort to her passengers. Similarly great size gives the naval architect material which he can utilize in furnishing better and more spacious accommodations for a larger number of the travelling public. From the purely business point of view the operators of transatlantic liners are fully alive to the advantages of appeal in the "biggest ships afloat." The pulling power of this lure is intensified if the vessels be also the "fastest afloat."

There is still another virtue in enlarged displacement. The cost of manning, propelling and keeping in a state of efficiency is comparatively less per unit of measurement than in the case with craft of more moderate dimensions but designed to meet the requirements of the same service. For the sake of the inquiring, let it be mentioned that the Mauretania is 785 feet long, is of 32,500 gross tons, and has made as much as 26 knots an hour; the Olympic is 882 feet long, is of 45,824 gross tons, and has a maximum speed of 21 knots; the Aquitania is 901 feet long, is of 47,000 tons gross, and has to her credit a maximum speed of nearly 24.5 nautical miles an

## Project Finds New York Prepared in Present and Potential Dock Facilities—Montauk Point Terminal Question Is Revived

hour; while the Vaterland, now the Leviathan, has a length of 907 feet, is of 54,282 gross tons, and has attained a maximum speed of 26.3 knots. The biggest American built transatlantic liners now in service are the Finland and the Kroonland, each 560 feet long, of 12,241 gross tons, and capable of making from 14 to 15 knots. These ships were built seventeen years ago and are in no wise fit to be classed with any of the great foreign liners. In effect, then, we are to-day nearly doubling the length, increasing the speed 100 per cent, and adding 42,769 tons to the capacity of the transatlantic express steamships we called into being in 1902.

In deciding upon ships 1,000 feet long and 102 feet maximum beam, the Federal authorities have gone the limit so far as the accommodations of the locks of the Panama Canal are concerned. That is to say, the usable maximum length of the locks is just 1,000 feet, and, similarly, a breadth of 110 feet is available. This fact is of prime military importance, because these liners are potential naval auxiliaries and are intended to carry powerful armaments of rapid fire guns in time of war. In this respect we are virtually patterning our course after the examples set us abroad; and the recent conflict has emphasized the wisdom of this foresight.

Great Britain while a free trade country spent many millions for the protection and the maintenance of her supremacy in ocean shipping when she called into being the Lusitania and the Mauretania. Those epoch-making vessels were built with money loaned by the British Government to the Cunard Company, at a very low rate of interest, and that interest and the refunding of the principal were covered by governmental bounties, in one form or another, which placed the steamship company in the unique position of virtually owning two magnificent craft for which they were not expected to pay. This was because the Admiralty reserved the right to call upon the company to surrender—at a handsome rental—those ships at any time during a period of national peril.

From upper deck to keel, the giant liners will have a hull depth of 74 feet, and towering above the main body there will be several other decks devoted exclusively to the accommodation of first-class passengers. Their navigational bridges will, therefore, be in the neighborhood of quite 75 feet

above water, with 35 feet of the hull submerged. These figures help the lay mind to get some understandable idea of the tremendous bulk of these ocean-going monsters. The dead weight or displacement of each of these vessels will be not less than 60,000 tons. The latest of our super-dreadnoughts, the Massachusetts and Iowa—the last word in titanic battle-craft—will have trial displacements of 43,200 tons, and this fact enables us the better to picture the enormous mass represented by each of the 1,000-foot express steamships which, so we are told, are to be the beginning of a fleet of magnificent passenger ships to carry the American flag. It is reported that the United States Shipping Board contemplates taking two more craft of this character in hand shortly after the keels for the first two are laid. Indeed, it is not unlikely that the United States will thus organize a two ocean service transatlantic and transatlantic, linking the terminals on the eastern and western seaboard by means of our transcontinental trunk lines.

### The Montauk Terminal Plan.

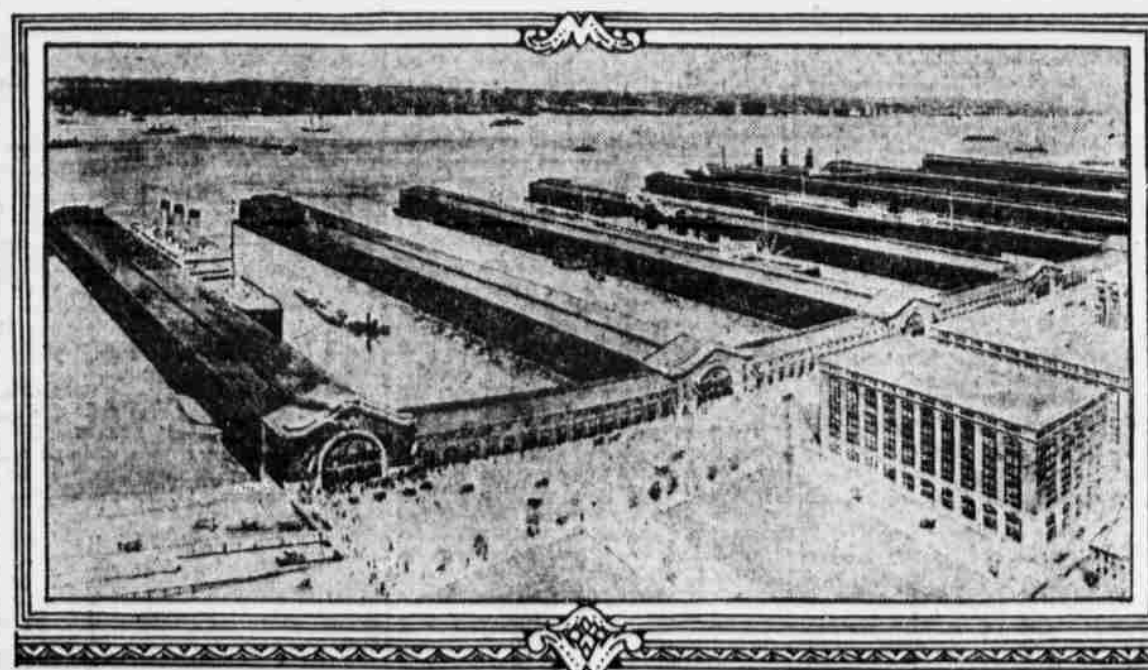
Coincidentally with the announcement of the United States Shipping Board's plans for the establishment of the American-European service, there is revived the Montauk Point terminal project—an enterprise that has been urged and intermittently discussed at intervals during the past twenty years. Each time that a foreign steamship company has undertaken the construction of a newer and bigger express steamship for the New York run the doubting Thomases have promptly pointed out potential local difficulties in docking and clearing ships of such size. We have been told that they could not safely thread their way in and out the North River channel except at very favorable stages of the tide, and we have been warned that thick weather would inevitably prevent any movement at all within the port's limits. Finally, to avoid these much advertised handicaps, and also to save some time, it has been argued that the logical thing would be to create, by building an extensive breakwater, a great steamship terminal at Fort Pond Bay at the eastern tip of Long Island—a distance of 120 miles from the metropolis.

Quite apart from the outlay that would be necessary on the part of the Pennsylvania Railroad in double track-

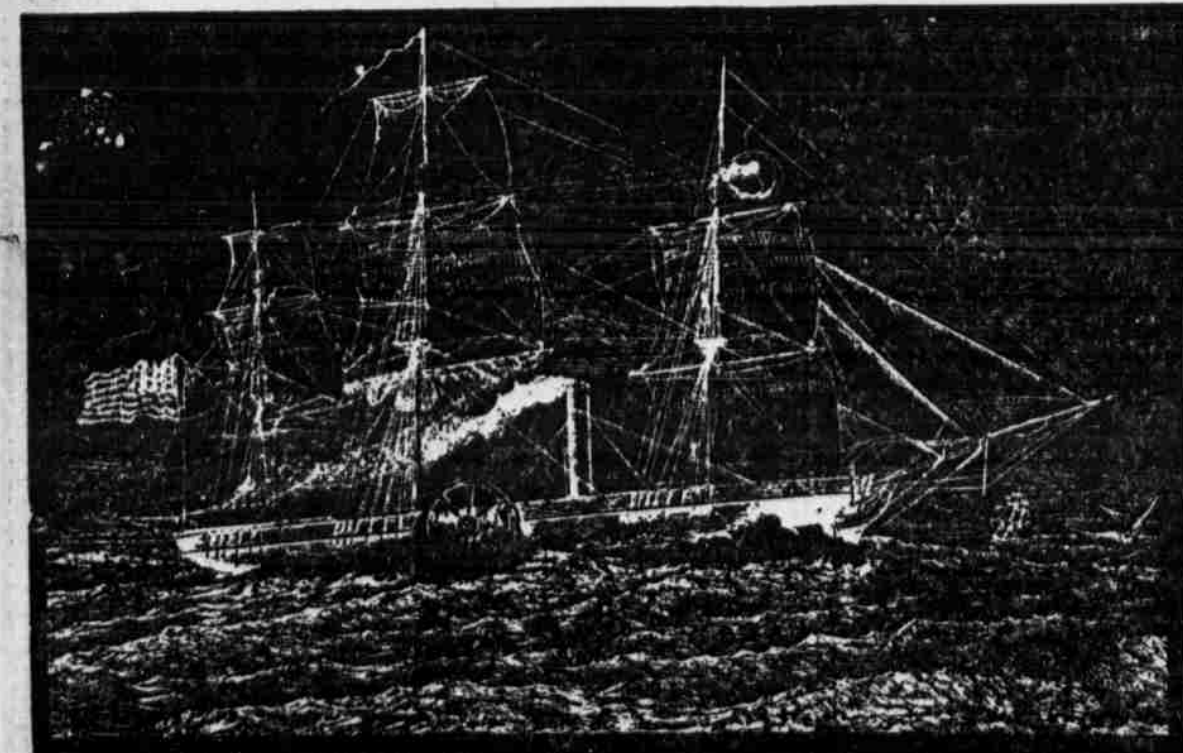
ing the Long Island line in order to insure a really satisfactory "limited" service from New York to Montauk Point and vice versa, the building of a breakwater reaching out into depths up to ninety feet, the erection of suitable piers, storehouses, &c., would entail expenditures running up into many millions of dollars. Under favorable conditions this would probably not effect a saving in the total trip from New York to Europe of more than two hours. Further, express matter and other goods moving to and from Europe by such a route would have to pay the added charges of rail transit and, in all likelihood, involve double handling. At least such are the objections advanced by those that are opposed to the Fort Pond Bay proposition.

Murray Hubert, the Director of the Port and the city's wide awake Commissioner of Docks, points out that the commanders of great foreign liners have repeatedly demonstrated how safely and speedily their big charges can be navigated in and out of the harbor and brought to their docks with amazing ease. Similarly, the Leviathan and lesser passenger craft in the hands of our naval men have experienced little trouble in making and leaving their berths here. Further, Mr. Hubert calls attention to the fact that we already have one 1,000-foot dock at Forty-fourth street; another is soon to be started close by; a third pier of this length is to be built at Canal street, and any of the numerous new wharves to be constructed on the east shore of Staten Island will be of ample size to accommodate the giant liners. As a matter of fact, the International Mercantile Marine Company has prospectively engaged itself to lease one of these great terminals.

As Mr. Hubert somewhat forcibly expresses it: "People who will be fussy about saving a couple of hours in a trip from here to Europe or the reverse are the sort that will probably find it more to their liking to cross the ocean by airship. It would be cheaper to let them pay for that convenience than to oblige millions of dollars at the present time in the equipping of an artificial harbor at the distant tip of Long Island. Ships of a thousand feet in length are not misfits here. We can take care of them, and the travelling public will be better and more comfortably served by arriving and departing virtually from the heart of Manhattan."



THE PROPOSED 1000 FOOT DOCK REGION ON THE NORTH-RIVER, ADJACENT TO 44TH STREET. WE NOW HAVE ONE OF THESE PIERS AVAILABLE.



THE "SAVANNAH" THE FIRST STEAMSHIP TO CROSS THE ATLANTIC OCEAN BUILT BY FRANCIS FICKETT, 1818. FIRST VOYAGE, 1819.